



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,600	06/19/2003	John F. Casey	10030747-1	5492

7590 02/28/2008  
AGILENT TECHNOLOGIES, INC.  
Legal Department, DL429  
Intellectual Property Administration  
P.O. Box 7599  
Loveland, CO 80537-0599

EXAMINER
----------

CHEN, BRET P

ART UNIT	PAPER NUMBER
----------	--------------

1792

MAIL DATE	DELIVERY MODE
-----------	---------------

02/28/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

*Ex parte* JOHN F. CASEY  
LEWIS R. DOVE, LING LIU, JAMES R. DREHLE, R. FREDERICK  
RAU, JR., ROSEMARY O. JOHNSON, and JULIUS BOTKA<sup>1</sup>,  
APPELLANTS

---

Appeal 2007-4317  
Application 10/600,600<sup>2</sup>  
Technology Center 1700

---

Decided: February 28, 2008

---

Before RICHARD TORCZON, CAROL A. SPIEGEL, and MARK  
NAGUMO, *Administrative Patent Judges*.

Opinion by NAGUMO, *Administrative Patent Judge*. Concurring opinion  
by TORCZON, *Administrative Patent Judge*.

---

<sup>1</sup> The petition filed 11 February 2005, seeking add the name of Julius Botka as an inventor, was granted on 21 June 2005.

<sup>2</sup> Application filed 19 June 2003. The real party in interest is listed as Agilent Technologies, Inc. (Appeal Brief filed 3 January 2005 ("App. Br."), at 2.)

NAGUMO, *Administrative Patent Judge*

## DECISION ON APPEAL

### A. Statement of the Case

Appellants ("Casey") appeal under 35 U.S.C. § 134 from the final rejection of claims 9–11, 18, and 20 under 35 U.S.C. § 112(2). (App. Br. at 4.) Remaining pending claims 1–8, 12, and 14–17 have been allowed. We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM.

The subject matter on appeal relates to methods of depositing thickfilm dielectrics on a substrate.

The sole issue on appeal is whether the Examiner erred reversibly in rejecting the claims that recite the terms "KQ dielectric" and "KQ CL-90-7858" to identify the dielectric material to be deposited because they are trademarks.

### Technical Background

According to the specification, microwave circuits have traditionally been made from thinfilm components that are assembled with one or more active circuit die into packages called "gold bricks," or "bricks," for short. (Specification ("Spec.") at 1, ¶ 2.) For simpler machining and better impedance matching, the thinfilm components are said to be ideally the same thickness as the die. (Spec. at 2, ¶ 2.) Thinfilm components and their correspondingly thin substrates, however, are said to be disadvantageously fragile under the high power, high heat dissipation conditions of high frequency microwave circuits. (Spec. at 2, ¶ 2.) Appellants describe their method as comprising depositing successive layers of thickfilm dielectric on

the substrate, air drying, and then oven drying each layer to allow the solvents to escape, before depositing the next layer. The assembled layers are then fired. (Spec. at 2, ¶ 3.) According to the specification, "[t]hicker dielectric layers translate into wider conductor stripes for a given desired value of microwave impedance, and wider stripes translate into more precise lines and less signal degradation due to conductor loss." (Spec. at 8, ¶ 23.)

Claims 1, 9, and 10 are representative and read as follows:

Claim 1:

A method for depositing a thickfilm dielectric on a substrate, comprising:

- a) depositing a first layer of thickfilm dielectric on the substrate;
- b) air drying the first layer to allow solvents to escape, thereby increasing the porosity of the first layer;
- c) oven drying the first layer;
- d) depositing additional layers of thickfilm dielectric on top of the first layer, oven drying after the deposition of each additional layer; and
- e) firing the deposited layers.

Claim 9:

The method of claim 1, wherein the layers of thickfilm dielectric comprise a KQ dielectric.

Claim 10:

The method of claim 9, wherein the KQ dielectric is KQ CL-90-7858 dielectric.

**B. Findings of Fact (FF)**

Findings of fact throughout this Decision are supported by a preponderance of the evidence of record.

1. The real party in interest for the application on appeal is listed as Agilent Technologies, Inc. ("Agilent") (App. Br. at 2.)
2. The Casey specification describes the dielectrics used in the invention in the following words:

a first layer of thickfilm dielectric **202** is deposited on the substrate **200**. In one embodiment, the dielectric **202** is the KQ CL-90-7858 dielectric (a glass dielectric) available from Heraeus Cermalloy (24 Union Hill Road, West Conshohocken, Pennsylvania, USA). However, the dielectric **202** may be another dielectric and, particularly, may be another KQ dielectric, glass dielectric, or other dielectric with suitable electrical properties.

(Spec. at 4, ¶ 13; emphasis added.)

3. The specification also provides a description of some of the physical properties of the KQ CL-90-7858 dielectric:

KQ CL-90-7858 prints like a standard thickfilm paste; has a dielectric constant of 3.95 (compared with 9.6 for alumina ceramic); has a loss tangent of 2E-4; may be fired in air in a conventional belt furnace at 850° C; is optically transparent after firing; and is compatible with DuPont QG150 gold (available from DuPont (1007 Market Street, Wilmington, Delaware, USA)). The low loss and low dielectric constant of KQ CL-90-7858 makes it particularly suitable for building microwave circuits (e.g., microwave transmission lines).

(Spec. at 4–5, ¶ 14.)

The Examiner's Rejection

4. The Examiner has rejected claims 9–11, 18, and 20 as indefinite in the use of the terms "KQ dielectric" and "KQ CL-90-7858" because the terms are trademarks or trade names that are used to identify or describe a particular material or product. (Ans.<sup>3</sup> at 3.)
5. The Examiner reasons that a trademark or trade name identifies the source of the goods, not the goods themselves, and that the rejected claims therefore fail to identify or define the claimed subject matter. (Ans. at 3.)
6. In the Final Rejection, the Examiner notes that websites can vary on a daily basis, and that "the composition of many materials are constantly changed as new materials or combinations of materials are discovered" and urges that Appellants recite the composition of the materials rather than the trademarks. (Final Rejection, mailed 29 July 2004, at 4.)

Casey's Rebuttal

7. Casey argues (App. Br. at 8–9) that its use of the disputed terms complies with at least the second requirement set out by the Manual of Patent Examining Procedure ("MPEP"):

Names used in trade are permissible in patent applications if:

(A) Their meanings are established by an accompanying definition which is sufficiently precise and definite to be made a part of a claim, or

(B) In this country, their meanings are well-known and satisfactorily defined in the literature.

---

<sup>3</sup> Examiner's Answer mailed 5 August 2005 ("Ans.").

(MPEP § 608.01(v) (8th Ed., Rev. 6 (September 2007): no change in wording from the MPEP 8th Ed., Rev. 2003, quoted by Casey.)

8. In particular, Casey states that, "[a]s published on Heraeus Cermalloy's website and in published papers, KQ dielectrics are glass dielectrics having a very low loss tangent (around  $10^{-4}$ ) and dielectric constant (around 3.9)." (App. Br. at 9.)
9. Casey states further that the term KQ CL-90-7858 "is even more definite, as [this] is not merely a trademark or trade name, but rather an identifier of a specific product having a specific composition." (App. Br. at 9.)
10. Casey also made these arguments during prosecution of the application. (*See, e.g.*, the Amendment filed 30 June 2004, at 8.)
11. The record does not appear to contain copies of pages from the Heraeus website.
12. Casey does not identify, in its principal brief or in its reply brief, any publications in the record that define either term.
13. In its briefs to the Board, Casey has not provided the composition of the material associated with the term KQ CL-90-7858; nor does such information appear to have been cited on the record before the Examiner.
14. However, as noted *supra* at FF3, certain specific physical characteristics of the material associated with the term KQ CL-90-7858 are reported in the specification.
15. Casey argues further that:

Appellants believe Heraeus Cermalloy's published characteristics and/or compositions of these materials are relied upon by the industry and are not subject to change. Although

Heraeus Cermalloy might introduce an additional KQ dielectric that fits under the KQ dielectric umbrella, Appellants do not believe that Heraeus Cermalloy would change their general definition of KQ dielectric. Nor would Heraeus Cermalloy alter the composition of a dielectric that is specifically identified by a part number (i.e., KQ CL-90-7858).

(App. Br. at 10-11.)

16. Casey admits that the term "KQ dielectric" is a trademark, but that the products covered by the trademark are "limited to a defined group of products . . . [that] are glass dielectrics having a very low loss tangent (around  $10^{-4}$ ) and dielectric constant (around 3.9)." (Reply Br. at 3.)

17. Casey admits further that and that the term "KQ CL-90-7858 dielectric" "may have some trademark value. However, its primary purpose is to serve as an identifier of a specific product having a specific composition." (Reply Br. at 3.)

Further findings of Fact

18. The present record contains no indication that there is an ownership or obligatory relation between Agilent and Heraeus Cermalloy ("Heraeus").

19. Our search (on 20 February 2008) of the Heraeus website (Thick Film Materials),

[http://www.heraeus-th.com/wch2/tfd/e\\_th\\_Home.nsf/\\$frameset/startneu](http://www.heraeus-th.com/wch2/tfd/e_th_Home.nsf/$frameset/startneu)

did not reveal any "hits" for a product called "KQ CL-90-7858." (See Appendix A, attached to this decision.)



### **C. Principles of Law**

A trademark is a mark by which the goods of the trademark owner may be distinguished from the goods of others. 15 U.S.C. § 1052.

During prosecution of an application for patent, “the PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant’s specification.” *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

The Federal Circuit has explained recently that claims have been held indefinite “only where a person of ordinary skill in the art could not determine the bounds of the claims, i.e., the claims were insolubly ambiguous.” *Halliburton Energy Services, Inc. v. M-I LLC*, \_\_\_ F.3d \_\_\_, \_\_\_, 2007-1149, slip op. at 7 (Fed. Cir. 2008). The court indicated that the inquiry encompassed the claim language, the specification, the prosecution history, and the knowledge of the artisan in the relevant art area. (*Id.*)

The patent statute places the burden on applicants to precisely define the invention:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

35 U.S.C. § 112(2); 127 F.3d at 1056.

#### **D. Discussion**

In the present case, the central question is, what do the terms "KQ dielectric" and "KQ CL-90-7858 dielectric," as they are used in the claims, mean to one skilled in the art?

Taken strictly as trademarks of Heraeus, these terms refer to the source of the goods, not to the generic goods themselves. Thus, "KQ dielectric" is whatever low loss tangent (about  $10^{-4}$ ), low dielectric constant (about 3.9) material Heraeus chooses to provide under that name. Similarly, "KQ CL-90-7858" appears to be a specific KQ dielectric material having a loss tangent of  $2 \times 10^{-4}$  and a dielectric constant of 3.95. Casey has not directed our attention to any evidence of record that informs us of the ranges of composition of these materials. Moreover, only a few of their physical properties are reported. (FF 2, 3.)

Casey's arguments that the USPTO has approved the use of trademarks in claims (App. Br. at 8–9) are not well taken. First, neither of the cases cited by Casey, namely, *Ex parte Simpson*, 218 USPQ 1020 (BPAI 1982) and *Ex parte Kitten*, 1999 WL 33134953 (BPAI 1999), is precedential. Bd. Pat. App. & Intf., Std. Operating P. 2 (rev. 7, 26 Dec. 2007). Thus, neither case compels any decision by a merits panel of the Board in any later case. Rather, their effect is limited to the persuasiveness of their arguments. *Kitten*, which distinguishes *Simpson* in *obiter dicta* (the issue of indefiniteness not having been raised during prosecution), is particularly unpersuasive. In any event, as pointed out by the merits panel in *Simpson*, the cases and the MPEP have focused on the issue of the meaning of a trademark in a disclosure, not in a claim. 218 USPQ at 1021. In

particular, the only decision of our reviewing court or its predecessors of which we are aware that resolves the effect of a trademark recited in a claim, analyzes the issue in terms of enablement, not in terms of definiteness.

Thus, in *In re Gebauer-Fuelnegg*, 121 F.2d 505 (CCPA 1941), the court considered whether the term "pliolite," as recited in claim 33 (" . . . moisture resistant, adherent and heat sealing composition which is non-tacky at ordinary temperatures comprising a major proportion of a rubber resin (pliolite) . . . ") was, in light of the record, 'such [a] clear, concise, and exact term[s] as to enable any person skilled in the art' to practice the invention." *Id.* at 507.<sup>4</sup> Indefiniteness—whether the scope of the claim was reasonably ascertainable—was not discussed.

As for the passage in the MPEP quoted by Casey and reproduced *supra* (FF 7), that discussion is concerned with the use in specifications of "names used in trade," which the MPEP takes care to define as follows:

a nonproprietary name by which an article or product is known and called among traders or workers in the art, although it may not be so known by the public, generally. Names used in trade do not point to the product of one producer, but they identify a single article or product irrespective of producer."

MPEP § 608.01(v) at 600-101 (8th Ed., Rev. 6, September 2007). Thus, "names used in trade" are, in that discussion, recognized as generic terms by

---

<sup>4</sup> The court found that the original application stated that a type of rubber resin could be used, and that 'pliolite' was a commercially available product, which the record showed was available from the Goodyear Tire & Rubber Company. It appears that the term 'pliolite' was introduced to the claims at the behest of the examiner. The court held that it was possible to practice the claimed invention "with the information originally furnished by appellants," and that the substituted specification, explaining in detail the method of making pliolite, did not introduce new matter. *Id.* at 508.

those skilled in the relevant art: they are not trademarks. Similarly, the USPTO has not taken a *per se* approach the presence of trademarks in applications, but has insisted that sufficiency of disclosure be decided on a case-by-case basis. *Id.* at 600-102.

We too shall not adopt a *per se* approach to terms that appear to be trademarks in claims. Rather, we must weigh, case-by-case, whether the disputed terms are used in the claims as indicators of the source of the specific goods or whether the terms are used as labels for the generic goods, and in either case, whether the goods are adequately defined, such that the bounds of the claims can be determined. Once a *prima facie* case has been established that the terms are asserted as trademarks (as opposed to being merely names in trade), the burden shifts to applicants to clarify whether the terms as used in the claims are intended to refer only to the goods provided under those marks by the trademark owner; and, if not, to show that generic equivalents are recognized in the art. In that case, generic language should be substituted for the marks, due care being taken to avoid the introduction of new matter into the specification and claims.

Because, as discussed *infra*, it appears that Casey has argued that the terms are recognized generically in the art, we need not consider whether terms that are used as trademarks to designate only the good provided by the trademark owner, can be recited in a claim that is definite within the meaning of 35 U.S.C. § 112(2).

Casey's arguments, although not models of clarity, read fairly as arguments that, in spite of their admitted status as Heraeus trademarks (Reply Br. at 3), the terms "KQ dielectric" and "KQ CL-90-7858" have

become generic<sup>5</sup>, or, in the language of the MPEP, "names in trade." (*E.g.*, FF 8, 9, 16, 17.) Casey's arguments that the KQ dielectrics, including the specific substance designated by KQ CL-90-7858, are well known and satisfactorily defined in the art are not persuasive. Casey has not directed our attention to any evidence of record indicating that those skilled in the relevant arts would have known the composition of the recited KQ materials well enough to know whether they are practicing the claimed invention when they have not purchased the dielectrics from Heraeus.<sup>6</sup> Similarly, Casey has not directed us to evidence in the record that Casey is in a position to speak for Heraeus as to how Heraeus may or may not elect to use or to change its trademarks or to maintain or change the underlying materials and characteristics with which the marks are associated. Nor are there, for example, declarations addressing this issue from a person of appropriate authority from Heraeus. Thus, Casey's arguments that the trademark terms are permanently fixed to particular goods is not supported by probative evidence, and we accord them no weight.

We conclude, therefore, that it would not be possible for a person of ordinary skill in the art to determine whether they were literally infringing the subject matter of claims 9–11, 18, and 20, unless they had purchased KQ dielectric or KQ CL-90-7858 dielectric from Heraeus as of the filing date (if it is still available: see FF 19). Indeed, on the present record, it does not

---

<sup>5</sup> It appears unlikely that the terms would be regarded as "merely descriptive" of the goods (15 U.S.C. § 1052(e)(1)) or functional (§ 1052(e)(5)).

<sup>6</sup> Our function is review: we decline to carry the Appellants' (or the Examiner's) burden by hunting through the record looking for evidence to support their arguments in the first instance.

appear that the ordinary worker using a "home-made" dielectric would be able to determine whether they were infringing under the doctrine of equivalents (assuming, arguendo, that that doctrine would be available to the patentee), because he or she would not know or be able to determine the range of composition and characteristics of materials that Heraeus would sell as either KQ dielectric. The following words of the Federal Circuit in *Morris* are apt: "[t]he PTO was not only permitted but obligated to reject [the claims] when appellants failed precisely to define in the written description the disputed language." *Morris*, 127 F.3d at 1057.<sup>7</sup>

The hallmark of indefiniteness is the inability to determine the bounds of the claimed subject matter. Accordingly, we hold that the rejected claims are indefinite.

#### **E. Summary**

In view of the record and the foregoing considerations, it is:

ORDERED that the rejection of claims 9–11, 18, and 20 under 35 U.S.C. § 112(2) is AFFIRMED.

FURTHER ORDERED that no time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

**AFFIRMED**

---

<sup>7</sup> We express no opinion as to whether the specification as filed supports a reasonable alternative definition for the subject matter Casey has attempted to define using the trademarks.

TORCZON, *Administrative Patent Judge*, concurring.

The majority correctly states the current test for indefiniteness—insoluble ambiguity—but then politely ignores the test for the rest of the opinion. Insoluble ambiguity (whatever its merits as a test in an invalidity context) is unworkable as a test during prosecution because it implies that the inverse—soluble ambiguity—adequately satisfies the requirement that claims provide notice of what the applicant regards as his invention.

Soluble ambiguity is an oxymoron. If a contested term can be fixed to a single meaning, then the term was never really ambiguous. Otherwise, ambiguity (as opposed to vagueness) frustrates the notice function of claims. *Compare Athletic Alternatives, Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1581 (Fed. Cir. 1996) (in an invalidity context, choose the narrower of contradictory meanings) *with In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) (requiring the agency to use the broadest construction). "Insolubly ambiguous" is not a test, but rather a conclusion. Like the old phrase "design choice" in obviousness rejections, it masks rather than elucidates the reasoning behind the rejection.

During prosecution, while the claim is still readily amended, a better test would be (1) is the examiner's concern about the term reasonable? If so, (2) can the claim be amended to more accurately reflect the inventor's intended meaning? The first question is necessary because examiners should not have unfettered authority to rewrite claims on a whim. On the other hand when, as in this case, the examiner has a principled basis for concern, the burden should shift to the applicant to explain why the claim cannot be amended to say explicitly what the applicant insists it already

means. In the context of examination, the best way to "solve" an ambiguity is to amend the claim.

The present appeal provides a case study in trying to solve ambiguity. At first glance, the claims recite a definite, (purportedly) commercially available composition or line of compositions. We have, however, nothing but attorney argument to support a finding that the recited composition has a definite meaning to those in the art or even to the recited supplier. One need only consider a ubiquitous, commercially available composition like COCA-COLA® to see that even a well-known product defined by a trademark can have noticeably different compositions at different times and different places. Is a reference to a specific item ambiguous if the item had a precise meaning as of the filing date, but is subject to change?

This case might have been a good candidate for treatment under 37 C.F.R. § 41.50(c), whereby we could bind the examiner to allow the claims (on this record) if the applicants make a required amendment. The applicants could have presented sufficient evidence to show that either the disclosure already defines the contested terms adequately or that it could be amended to state explicitly what those terms meant at the time of filing without adding new matter. Invoking the rule is, however, discretionary. Given the uncertainty regarding the meaning of the dielectric limitation on the current record, it is not immediately clear what amendment the panel could require.



Appeal 2007-4317  
Application 10/600,600

MAT

AGILENT TECHNOLOGIES, INC.  
Legal Department, DL429  
Intellectual Property Administration  
P.O. Box 7599  
Loveland CO 80537-0599